

Installation guide

For the Intel® Express 3D Graphics Card

Preparing to install the Intel ®Express 3D graphics card

Operating system

Windows® 95

- Determining which version you are using
- USB Supplement
- PIIX4 update

Windows® 98

Windows® NT

Existing graphics card software

Replacing an existing graphics solution

- Removing the previous graphics drivers
- Changing to Standard Display drivers

Windows® 98

Windows® NT

Installation during the build of a new PC

- System Bios

Installing your Intel® Express 3D graphics card

Installing new drivers and software

Windows® 95

Windows® 98

Windows® NT

Preparing to install the Intel® Express 3D Graphics card

-Operating System-

Once the PC has been assembled (including the graphics card), the operating system must be installed. This section assumes that the user is starting with a fresh install of Microsoft Windows® 95 OSR2.0/2.5, Windows 98 or Windows NT service pack 3.0 or greater.

Windows® 95

Windows® 95 OSR2.0/2.5

It is absolutely imperative that OSR2.0 or greater be used when installing Windows 95.

Determining which version of Windows 95 you are using

To determine the version of Windows 95 you are running, follow these steps:

1. In **Control Panel**, double-click **System**.
2. Click the **General** tab.
3. Locate the version number under the System heading and then see the following table:

Version number	Version of Windows® 95
4.00.950	Windows® 95
4.00.950A	Windows® 95 plus the Service Pack 1 Update, or OEM Service Release 1.
4.00.950B	OEM Service Release 2 (OSR2)
4.00.950C	OEM Service Release 2.5 (OSR2.5)

Note: if you are running OEM Service Release version 2.1, you see the version number 4.00.950B (the same as OSR2) when you follow the steps above. To determine whether you are running OSR 2.1, check for "USB Supplement to OSR2" in the list of installed programs in the **Add/Remove Programs** tool in **Control Panel**, and check for version 4.03.1212 of the Ntkern.vxd file in the Windows\System\Vmm32 folder.

To check the version of the Ntkern.vxd file:

1. Double click **My Computer**, **c:** (or drive with windows folder), **Windows**, **System**, then **Vmm32**. Right click **Ntkern.vxd** then left-click on **Properties**. Left click on the **Version** tab. The file version should be highlighted.

If you are running OSR2.5 and you uninstall the USB Supplement using the Add/Remove Programs tool in Control Panel, the version number changes to 4.00.950b on the General tab in System properties.

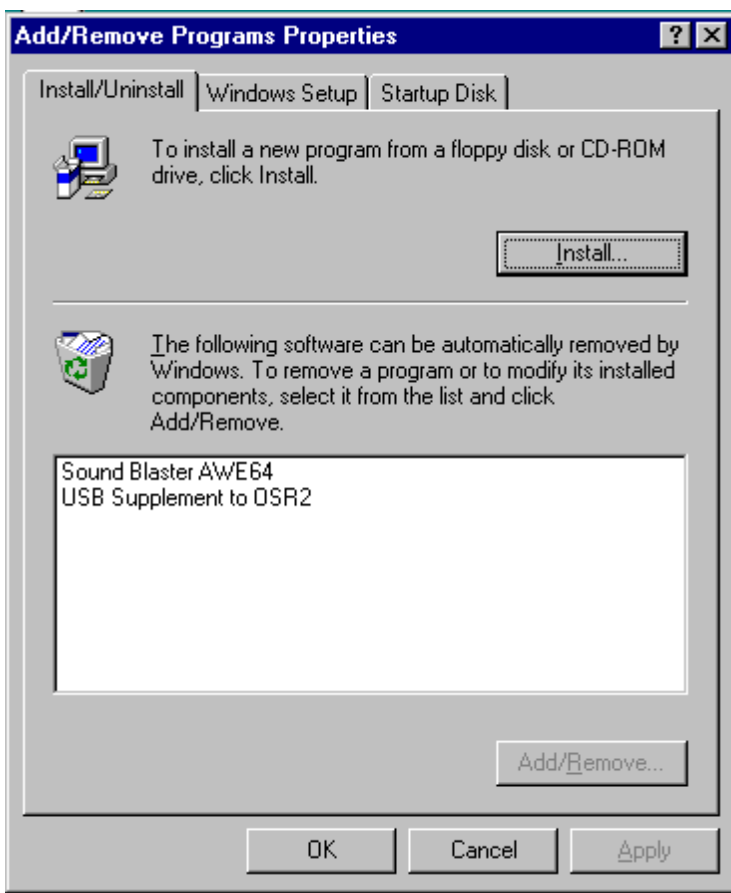
Windows 95 may have been preinstalled on your computer. These installations are referred to as OEM (Original Equipment Manufacturer) installations. To determine whether you have an OEM installation of Windows 95, follow these steps:

1. In **Control Panel**, double-click **System**.
2. Click the **General** tab.
3. Locate the Product ID number under the Registered to heading. This number typically contains 20 digits. If digits 6, 7, and 8 contain the letters "OEM," you have an OEM installation of Windows 95. For example, the following sample Product ID number indicates an OEM installation:

12345-OEM-6789098-76543

USB Supplement

Once the Windows 95 operating system has been successfully installed the USB supplement must be added (this is not necessary with Windows98).



The USB Supplement is a Windows executable, which can be launched by double clicking on the setup icon. It is important that the USB Supplement be added before any other operating system patches or drivers are installed. This will ensure that the USB port is correctly recognized by the operating system.

Note: The USB Supplement is not installed automatically with the installation of Windows 95 OSR2.0/2.1/2.5. The USBSupp.exe must be run separately.

To determine if the USB Supplement has already been installed follow these steps:

Figure 1.1

- 1) In **Control Panel**, double click the **Add/Remove Programs** icon. With the **Install/Uninstall** tab selected there should be a "USB Supplement to OSR2" item in the remove items list (you may have to scroll).
- 2) If this does not appear as seen in Figure 1.1 then the USB Supplement has not been installed.

Pix4 update

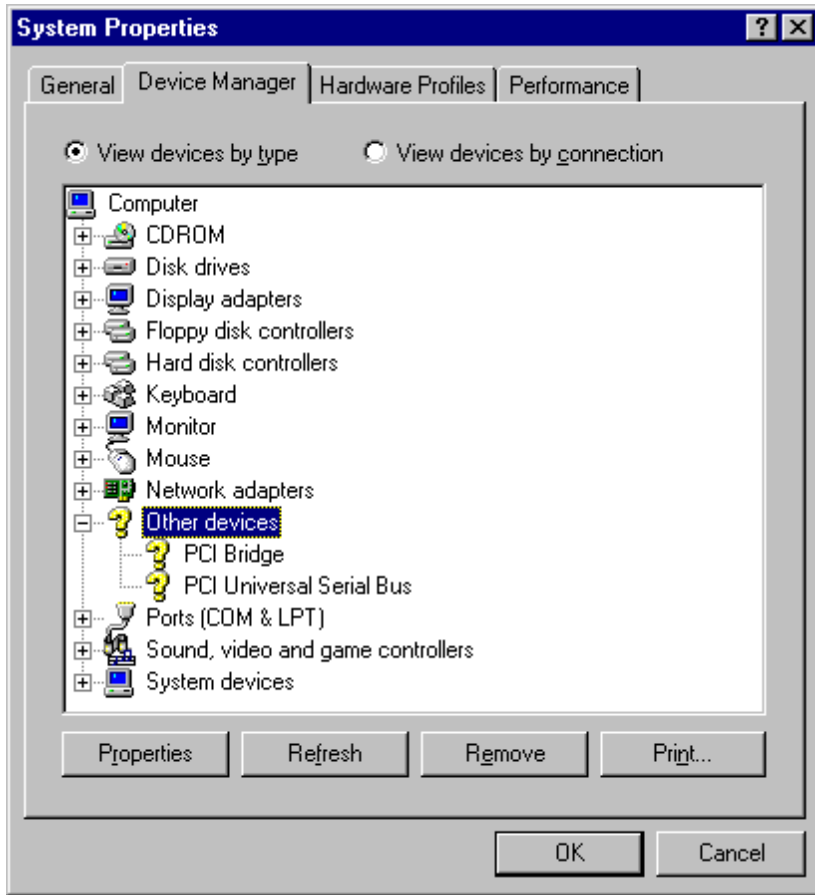


Figure 1.2

Many systems using the Intel® PCI chipsets will require that the PIIX4 Update be installed. This is not required for the installation of the Express3D graphics card.

To determine if the USB Supplement and PIIX4 update have been installed correctly, follow these steps:

- 1) Right click on **My Computer** and select **Properties** from the menu.
- 2) Select the **Device Manager** tab from the System Properties window.
- 3) Be sure that “**View devices by type**” is selected.

There should be a device listed for Universal serial bus controller. This device should have its own Icon, and it should not be associated with a question mark denoting unrecognized or other devices. See [Figure 1.2](#).

Windows 98

No additional software installation is required under Windows 98.

Windows NT

You must be running service pack 3.0 to use the Express 3D graphics card software.

-Existing graphics card software-

Replacing an existing graphics solution

Existing Graphics solutions will be in one of two forms:

- a stand alone card
- an on-board or “Graphics down” solution.

IMPORTANT : before removing any graphics hardware from your computer, the display properties must be set to a standard adapter. Failure to do so may cause unpredictable results.

Removing the previous graphics drivers

- Run the uninstall utility provided by the hardware manufacturer. This will either be found in the “**Add \ Remove Programs**” menu (see figure 1.1) or in an uninstall executable located in the Graphics card installation directory. Some graphics solutions offer an uninstall icon in the **start, programs** menu.
- If no uninstall utility is available, the drivers can be changed by the following procedure:

Changing to Standard Display drivers (Windows 95)

1. In **Control Panel**, double-click **Display**. The “Display Properties” window will be shown.
- 2) Left click on the **Settings** tab, then **Advanced Properties**. Your current adapter information should be displayed.
- 3) Left click on **Change**. The “Select Device” menu will appear. Left click on **Show all devices**.
- 4) Under the list of manufacturers, scroll to the top and select **(Standard display types)** then **Standard PCI Graphics Adapter(VGA)** under the Models heading.
- 6) Click **OK**. The “Select Device” window will close.
- 7) Within the “Advanced Display Properties” window, click **Apply**, then **OK**. The “Advanced Display Properties” window will close.
- 8) Click on **Apply** in the “Display Properties” window. A message will appear prompting you to restart your computer. Click **Yes** and your computer will be restarted.
- 9) When the computer restarts, the Standard Display drivers will be used.

Changing to Standard Display drivers (Windows 98)

1. In **Control Panel**, double-click **Display**. The “Display Properties” window will be shown.
- 2) Left click on the **Settings** tab, then **Advanced...** Click again on the **Adapter** tab. Your current adapter information should be displayed.

- 3) Left click on **Change**. The Update Device Driver Wizard will appear. Click on **Next** then **Display a list of all the drivers**...Click again on **Next** then **Show all hardware**.
- 4) Under the list of manufacturers, scroll to the top and select **(Standard display types)** then **Standard PCI Graphics Adapter** under the Models heading.
- 5) Click **Next**., **Next**, then **Finish**. The "Update Device Driver Wizard" window will close.
- 7) Click **Apply**, then **Close**. The "Display Properties" window will close.
- 8) A message will appear prompting you to restart your computer. Click **Yes** and your computer will be restarted.
- 9) When the computer restarts, the Standard Display drivers will be used.

Changing to Standard Display drivers (Windows NT 4.0)

1. In **Control Panel**, double-click **Display**. The "Display Properties" window will be shown.
- 2) Left click on the **Settings** tab, then **Display Type**. Your current adapter information should be displayed.
- 3) Left click on **Change**. The "**Change Display**" menu will appear.
- 4) Under the list of manufacturers, scroll to the top and select **(Standard display types)** then select **VGA compatible display adapter** under the Display heading.
- 6) Click **OK**. Windows will copy the driver files from the installation CD. Click **OK**.
- 7) Within the "**Display Type**" window, click **Close**.
- 8) Click on **Close** in the "Display Properties" window. A message will appear prompting you to restart your computer. Click **Yes** and your computer will be restarted.
- 9) When the computer restarts, the Standard Display drivers will be used.

Installation during the build of a new PC

Note: Your motherboard may have an on-board or "Graphics-Down" graphics solution. The motherboard's on-board graphics device must be disabled from within the CMOS setup utility before you can install the Express 3D Graphics Card. See your motherboard's documentation for instructions on disabling this feature.

System Bios

If a system BIOS update is necessary, complete the BIOS update before proceeding. (BIOS information is displayed at boot-up. Compare the current version information to the latest BIOS revisions provided by your motherboard or system vendor. Follow the manufacturer's instructions for BIOS update procedures).

Installing your Express 3D Graphics Card

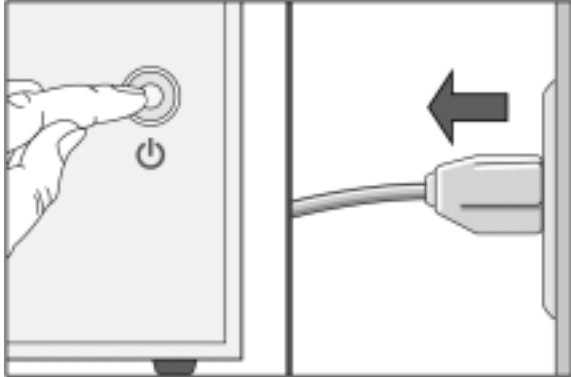
Before handling any components or opening the computer system cover, ground yourself by touching the metal back or side panel of your computer's system unit.

Step 1 - Unplug the computer and remove the cover.

Shut down the computer and turn off any attached equipment (such as a monitor or printer).

Unplug the power cord.

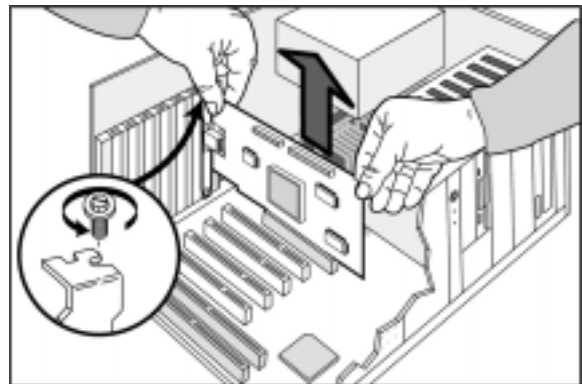
Remove the cover.



Step 2 - Remove the current graphics card.

Detach any cables that are attached to the current graphics card and remove the bracket screw locking the card down.

Grasp the card by the edges and pull it straight out of the motherboard slot. If the card sticks in the slot, rock it gently from end to end to dislodge it. Remember to save screw.



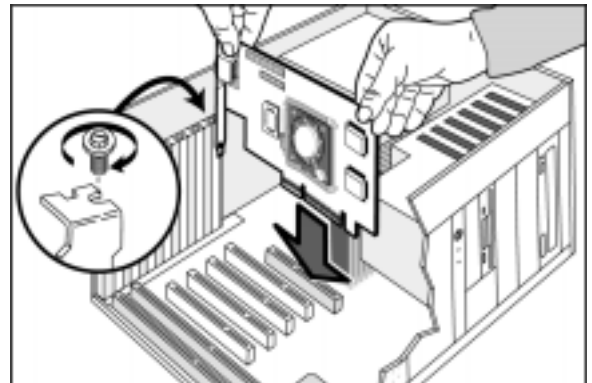
Step 3 - Insert the Intel Express 3D graphics card.

Grasp the Intel Express 3D graphics card by its edges.

Align the card with the AGP slot on the motherboard, and gently insert it into place.

Make sure that the card is pressed evenly and completely into the slot.

Fasten it with the bracket screw.

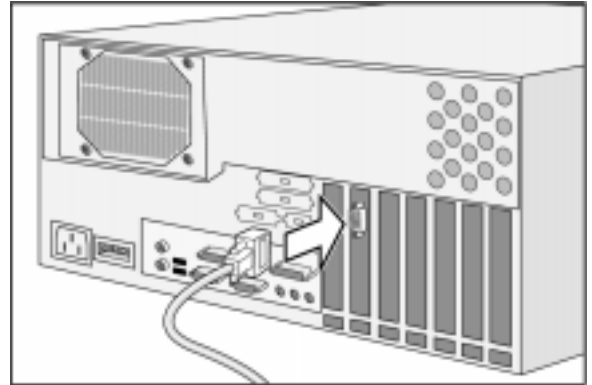


Note: There should be only one Accelerated Graphics Port (AGP) slot on the motherboard. You can use the figure above to help locate which is the correct slot, but the exact configuration of the components on the motherboard may differ from the figure. Check the manual for the system or motherboard for more information.

Step 4 - Reconnect the monitor cable & replace the cover.

Plug the cable from your computer monitor into the back of the Intel Express 3D graphics card. Make sure it is securely fastened.

Carefully replace the computer cover and plug the power cord back in.



Installing Drivers and Software for the E3D Graphics Card

Windows 95/98

Note: if you are setting up Windows 95/98 for the first time with the Express 3D graphics card in place, Windows will automatically install the “Standard PCI Graphics Adapter” drivers. You will not be prompted to install any new display drivers on startup.

Windows NT. NT will detect the video adapter and will allow you to adjust the display properties. You can install the adapter drivers at this point (from the Winnt directory on the installation CD), but it is recommended that you click OK in the “Display Properties” window, and follow the procedure listed under the Windows NT heading below.

After installing the Express 3D Graphics card as outlined on pages 6 and 7, turn the computer on. Microsoft Windows should auto-detect the new graphics card and prompt you to install the corresponding display drivers. The Express 3D display adapters can be added at this point (located in the Win9x directory on the install CD), but it is recommended that you follow the procedures listed below:

Windows 95

- Restart your computer. Windows will auto-detect your new hardware and will start the “Update Device Driver Wizard”. Click **Next**, then **Finish**. Windows will load drivers for the “Standard PCI Graphics Adapter” from the Windows 95 CD.
- You will be asked if you want to restart your computer. Click **Yes**.
- When your computer restarts, the computer may auto detect other hardware, such as a monitor, associated with your graphics card.
- Ensure that all necessary software components such as the USB supplement have been installed (see section on the USB supplement).
- Run the setup program by double clicking on the **Setup** icon on the Intel® Express 3D Graphics Card Installation CD.
- Follow all directions as given in the setup program.
- When prompted, choose to install the Express 3D display drivers.
- Follow the instructions given in the “Driver Display Setup” window.
- Select **Yes** to restart your computer.
- When your computer restarts, use the Intel Express 3D Graphics Card Configuration Manager to adjust the graphics and display output settings as desired. To run the configuration manager, click on **Start, Programs, Intel Express 3D Graphics Card**, then **Configuration Manager**.

Windows 98

- Restart your computer. Windows will auto-detect new hardware and will start the “Add New Hardware Wizard.”

- Click **Next**, then **Finish** to allow Windows to search for a new driver. You will be prompted to specify possible locations for your new drivers.
- Uncheck all boxes and click **Next**. The driver will automatically be found in the windows\inf directory.
- Click **Next** again to load the “Standard PCI Graphics Adapter” drivers. The computer may auto detect other hardware associated with your graphics card.
- Click **Finish** to complete the new driver installation.
- You will be asked if you want to restart your computer. Click **Yes**.
- When your computer restarts, the computer may again auto-detect other hardware, such as a monitor. Click **Next**.
- If you want to customize your hardware settings, choose **Display a list...**. If not, choose **Search for the best driver...**
- Click **Next**. Check the boxes corresponding to the location of your hardware driver. If you do not have a driver disk, or know the location of driver files, uncheck all boxes. Windows will automatically find the best driver.
- Click **Next** to allow Windows to perform the search, then **Next**, and **Finish** to accept the new driver.
- Install all necessary software components such as the USB supplement.
- Run the setup program by double clicking on the **Setup** icon on the Installation CD.
- Follow all directions as given in the setup program.
- When prompted, choose to install the Express 3D display drivers.
- Follow the instructions given in the “Driver Display Setup” window.
- Select **Yes** to restart your computer.
- When your computer restarts, use the Intel Express 3D Graphics Card Configuration Manager to adjust the graphics and display output settings as desired. To run the configuration manager, click on **Start, Programs, Intel Express 3D Graphics Card**, then **Configuration Manager**.

Windows NT

- Run the setup program by double clicking on the **Setup** icon on the Installation CD.
- Follow all directions as given in the setup program.
- When prompted, choose to install the Express 3D display drivers.
- Follow the instructions given in the “Driver Display Setup” window.
- Select **Yes** to restart your computer.
- When your computer restarts, use the Intel Express 3D Graphics Card Configuration Manager to adjust the graphics and display output settings as desired. To run the configuration manager, click on **Start, Programs, Intel Express 3D Graphics Card**, then **Configuration Manager**.